Remarks

I. Response to Arguments Section

The Final Rejection on page 16 includes a "Response to Arguments" section that states:

> Applicant's arguments filed 6/16/2011 have been fully considered but they are not persuasive.
>
> In the remarks on pgs. 11-14 and 18 of the amendment, the applicant contends that Kerr et al. in view of Willkie does not teach or suggest "decoding, by said network interface, a header of the first packet to determine a length of data to be stored in said destination entity, wherein said header conforms to a protocol above TCP"
>
> Examiner respectfully disagrees Kerr et al. teaches in particular transmission protocol type including TCP, the message flow is decoded using the information in the header to include the packet length.

Applicants respectfully note that the Examiner's assertion as to what Kerr et al. teaches lacks elements of the claim portion quoted immediately prior. That is, Examiner's assertion does not indicate that Kerr et al. teaches that "said header conforms to a protocol above TCP." This is because Kerr et al. does not teach "decoding, by said network interface, a header… wherein said header conforms to a protocol above TCP." For at least this reason, the Final Rejection has not presented a *prima facie* case of obviousness for any claim, as discussed further below.

II. 35 USC §103 - Kerr in view of Willkie

The Office Action rejects claims 1-11, 17-22 and 24-27 under 35 USC §103(a) as allegedly being unpatentable over U.S. Patent No. 6,243,667 to Kerr et al. ("Kerr") in view of U.S. Patent No. 6,682,851 to Willkie et al. ("Willkie").

A. Claim 1

Regarding claim 1, the Office Action states:

> Regarding **Claim 1** Kerr et al. discloses a method of identifying multiple packets in a communication flow between a source entity and a destination entity, comprising (see figure 2, message flow patterns):
>
> storing, in a network interface for the destination entity, a first flow identifier of a first packet received from a source entity for a destination entity, wherein said first flow identifier comprises an identifier of the source entity and an identifier of the destination entity, including source

and destination Transmission Control Protocol (TCP) port numbers (see col. 3, lines 57-67, flow identifying, identifying a flow for the packet, see col. 6, lines 29-41, the flow cache, stores the flow identifiers, including the source and the destination, see col. 1, lines 62-66, the collected information is reported to devices on the network(reads on network interface devices for the destination entity as broadly claimed), see also figure 1, section 540 reporting device, see col. 2 line 61- col. 3 line 2, a message flow 160 is defined by a network-layer address for a particular source device 120, a particular port number at the source device 120, a network-layer address for a particular destination device 130, a particular port number at the destination device 130, and a particular transmission protocol type. For example, the transmission protocol type may identify a known transmission protocol, such as TCP);

decoding, by said network interface, a header of the first packet to determine a length of data to be stored in said destination entity, wherein said header conforms to a protocol above TCP(see col. 3, lines 25-34, a message flow may be identified responsive to other factors. These other factors may include one or more of the following: information in packet headers the packet length);

storing, in the network interface said first packet in a packet memory for transfer toward the destination entity; storing, in said network interface a second flow identifier of a second packet(see col. 6, lines 32-42, flow cache(memory), stores the flow identifiers, see col. 3, lines 56-67, the router stores the packet for transfer to the destination);

storing in said network interface said second packet in said packet memory; determining whether said first flow identifier matches said second flow identifier(see col. 3, lines 55-67, the router stores packets, and identifies the message flow using the flow identifier of the header);

storing a first indicator in the destination entity if a first communication flow identified by said first flow identifier comprises said second packet;(see col. 7, lines 56-57, collecting and reporting information about messages flow, reporting reads on a indicator), see col. 8, lines 35- 56, the routing device transmits the information packet about message flows(including the flow identified) to a destination device, see col. 4, lines 1-7, the routing device look up the flow cache to determine a flow, results are identified or new) and

storing a second indicator in the destination entity if said first packet is the only packet stored in the packet memory that is part of said first communication flow(see col. 7, lines 56-57, collecting and reporting information about messages flow, reporting reads on a indicator), see col. 8, lines 35-56, the routing device transmits the information packet about message flows(including when the flow identified includes only one packet) to a destination device, see col. 4, lines 1-7, the flow is identified as new if the first packet only packet part of the communication flow).

> Kerr et al. fail to explicitly state storing a first indicator in the destination entity, and storing a second indicator in the destination entity as claimed.
>
> However Willkie et al. teaches storing a first indicator in the destination entity, and storing a second indicator in the destination entity (see col. 3, lines 45-65, Willkie et al. teaches a QMIP unit which receives and stores data from a set of modules, which comprises a memory which stores a received flow control indication from each module, the flow indicator indicates if transmission of data is to cease , the QMIP creates a frame which carries data information and flow control indication , the QMIP forward frame over the common data link).
>
> Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Kerr et al. invention with Willkie et al. invention because Willkie et al. transfers data between multiple entities over a serial link in a efficient manner(see Willkie et al. see col. 3, lines 38-41)

Applicants respectfully disagree with this rejection. As noted above, applicants respectfully disagree that "Kerr et al. discloses ...decoding, by said network interface, a header of the first packet to determine a length of data to be stored in said destination entity, wherein said header conforms to a protocol above TCP(see col. 3, lines 25-34, a message flow may be identified responsive to other factors. These other factors may include one or more of the following: information in packet headers the packet length)." The citation of Kerr that the Final Rejection relies upon as allegedly disclosing this claim recitation reads:

> For example, in alternative embodiments, a message flow may be bi-directional instead of unidirectional, a message flow may be identified at a different protocol layer level than that of transport service access points, or a message flow may be identified responsive to other factors. These other factors may include one or more of the following: information in packet headers, packet length, time of packet transmission, or routing conditions on the network (such as relative network congestion or administrative policies with regard to routing and transmission).

There is simply nothing in this quotation, or in the remainder of Kerr, that teaches "decoding, by said network interface, a header... wherein said header conforms to a protocol above TCP." There is no "protocol above TCP" mentioned. Packet length would have been easy for the router of Kerr to determine without decoding any header, by simply counting the bytes of the packet. Further, decoding a header of a layer above TCP would have been useless and a waste of processing resources for the router of Kerr,

which operated at layers below TCP. For at least these reasons, the Final Rejection has not presented a *prima facie* case of obviousness for claim 1.

Applicants also respectfully disagree that "Kerr et al. discloses ... storing a second indicator in the destination entity if said first packet is the only packet stored in the packet memory that is part of said first communication flow(see col. 7, lines 56-57, collecting and reporting information about messages flow, reporting reads on a indicator), see col. 8, lines 35-56, the routing device transmits the information packet about message flows(including when the flow identified includes only one packet) to a destination device, see col. 4, lines 1-7, the flow is identified as new if the first packet only packet part of the communication flow)." Although "col. 4, lines 1-7" of Kerr disclose determining whether "the identified message flow 160 is a 'new' message flow 160," Kerr does not teach that this determination is stored in the destination entity. Moreover, Kerr does not disclose that a second indicator is stored besides the first indicator, regardless of whether the packet is "new." For at least these additional reasons, the Final Rejection has not presented a *prima facie* case of obviousness for claim 1.

Applicants further respectfully disagree that "Willkie et al. teaches storing a first indicator in the destination entity, and storing a second indicator in the destination entity (see col. 3, lines 45-65, Willkie et al. teaches a QMIP unit which receives and stores data from a set of modules, which comprises a memory which stores a received flow control indication from each module, the flow indicator indicates if transmission of data is to cease , the QMIP creates a frame which carries data information and flow control indication , the QMIP forward frame over the common data link)." Willkie does not teach "storing a second indicator in the destination entity." Instead, col. 3, lines 53-57 of Willkie states:

> The QMIP unit also receives and stores a flow control indication from each module of a first set of modules. The flow control indication is indicative as to whether each module of the first set of modules is capable of receiving data.

In other words, the only indicator for a module is "whether each module is capable of receiving data." For at least these additional reasons, the Final Rejection has not presented a *prima facie* case of obviousness for claim 1.

Moreover, applicants respectfully disagree that "it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Kerr et al. invention with Willkie et al. invention because Willkie et al. transfers data between multiple entities over a serial link in a efficient manner(see Willkie et al. see col. 3, lines 38-41)." Instead, col. 3, lines 38-41 of Willkie state:

> Therefore, there is a need in the art for a means of transferring data between multiple entities over a single serial link. The invention fulfills this need in an efficient manner.

In other words, Willkie stresses the importance of "a single serial link." In contrast, Kerr is directed to "a technique for network switching and data export responsive to message flow patterns." Col. 1, lines 43-45. A "single serial link" does not use "network switching" and "network switching" is not used for "a single serial link." Because Willkie and Kerr are directed to mutually exclusive purposes, a person of ordinary skill in the art would not have combined Kerr and Willkie as proposed by the Final Rejection. For at least this additional reason, the Final Rejection has not presented a *prima facie* case of obviousness for claim 1.

Because of the multiple reasons why the Final Rejection has not presented a *prima facie* case of obviousness for claim 1, applicants respectfully assert that claim 1 and all the claims that depend from claim 1 are nonobvious, and respectfully request that the rejection of those claims be withdrawn.

B. <u>Claims 3 and 22</u>

Regarding claims 3 and 22, the Office Action states:

> Regarding **Claims 3 and 22** Kerr et al. discloses a method of identifying one or more packets in a communication flow between a source entity and a destination entity, comprising:
>
> receiving a first packet at a communication device that is a network interface for a host computer (see col. 3, lines 55-56, receives a packet, see figure 1, section 140, routing device);
>
> identifying by said network interface a first communication flow comprising said first packet with a first flow identifier configured to identify both the source entity and the destination entity including source and destination Transmission Control Protocol (TCP) port numbers (see col. 3, lines 57-67, flow identifying, identifying a flow for the packet, see col. 6, lines 29-41, the flow cache, stores the flow identifiers, including the

> source and the destination, see col. 2 line 61- col. 3line 2, a message flow 160 is defined by a network-layer address for a particular source device 120, a particular port number at the source device 120, a network-layer address for a particular destination device 130, a particular port number at the destination device 130, and a particular transmission protocol type. For example, the transmission protocol type may identify a known transmission protocol, such as TCP);
>
> decoding, by said network interface, a header of the first packet to determine a length of data to be stored in said destination entity, wherein said header conforms to a protocol above TCP(see col. 3, lines 25-34, a message flow may be identified responsive to other factors. These other factors may include one or more of the following: information in packet headers the packet length);
>
> determining by said network interface whether said first communication flow also comprises a second packet received at said communication device after said first packet was received at said communication device(see col. 3, lines 49-67, the router determines the message flow of the received packets); and
>
> transferring said first packet to a host computer for processing in accordance with a communication protocol associated with said first packet (see col. 8, lines 35-59, the router build an information packet which is then sent to a destination device (host computer), in accordance to a communication protocol, for processing, see col. 2-3, lines 50-2, the router, processes in accordance to a transmission protocol type of the first packet).
>
> Kerr et al. fail to explicitly point out transferring said first packet to a host computer as claimed.
>
> However Willikie et al. teaches transferring said first packet to a host computer (see col. 3, lines 60-65, the QMIP unit creates a frame which carries data information and flow control information and forwards the frame over the common data link to a host computer(entity)).
>
> Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Kerr et al. invention with Willikie et al. invention because Willikie et al. transfers data between multiple entities over a serial link in a efficient manner(see Willikie et al. see col. 3, lines 38-41).

Applicants respectfully disagree with this rejection. As noted above, applicants respectfully disagree that "Kerr et al. discloses …decoding, by said network interface, a header of the first packet to determine a length of data to be stored in said destination entity, wherein said header conforms to a protocol above TCP(see col. 3, lines 25-34, a message flow may be identified responsive to other factors. These other factors may include one or more of the following: information in packet headers the packet length)."

The citation of Kerr that the Final Rejection relies upon as allegedly disclosing this claim recitation reads:

> For example, in alternative embodiments, a message flow may be bi-directional instead of unidirectional, a message flow may be identified at a different protocol layer level than that of transport service access points, or a message flow may be identified responsive to other factors. These other factors may include one or more of the following: information in packet headers, packet length, time of packet transmission, or routing conditions on the network (such as relative network congestion or administrative policies with regard to routing and transmission).

There is simply nothing in this quotation, or in the remainder of Kerr, that teaches "decoding, by said network interface, a header... wherein said header conforms to a protocol above TCP." There is no "protocol above TCP" mentioned. Packet length would have been easy for the router of Kerr to determine without decoding any header, by simply counting the bytes of the packet. Further, decoding a header of a layer above TCP would have been useless and a waste of processing resources for the router of Kerr, which operated at layers below TCP. For at least these reasons, the Final Rejection has not presented a *prima facie* case of obviousness for claims 3 or 22.

Applicants also respectfully note that the Final Rejection does not address the recitation in claim 3 of "transferring said header of said first packet to said host computer for processing said data" or the recitation in claim 22 of "transferring said header of said first packet to said host computer for data associated with said first packet." These recitations relate to earlier respective recitations that "said header conforms to a protocol above TCP." As noted above, however, there is no "protocol above TCP" mentioned that the header conforms to and that is decoded by the network interface. For at least these additional reasons, the Final Rejection has not presented a *prima facie* case of obviousness for claims 3 or 22.

Moreover, applicants respectfully disagree that "it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Kerr et al. invention with Willkie et al. invention because Willkie et al. transfers data between multiple entities over a serial link in a efficient manner(see Willkie et al. see col. 3, lines 38-41)." Instead, col. 3, lines 38-41 of Willkie state:

> Therefore, there is a need in the art for a means of transferring data between multiple entities over a single serial link. The invention fulfills this need in an efficient manner.

In other words, Willkie stresses the importance of "a single serial link." In contrast, Kerr is directed to "a technique for network switching and data export responsive to message flow patterns." Col. 1, lines 43-45. Because Willkie and Kerr are directed to contradictory purposes, a person of ordinary skill in the art would not have combined Kerr and Willkie as proposed by the Final Rejection. For at least this additional reason, the Final Rejection has not presented a *prima facie* case of obviousness for claims 3 and 22.

Because of the multiple reasons why the Final Rejection has not presented a *prima facie* case of obviousness for claims 3 and 22, applicants respectfully assert that claims 3 and 22 and all the claims that depend from claims 3 and 22 are nonobvious, and respectfully request that the rejection of those claims be withdrawn.

C. Claims 2 and 24

Regarding claims 2 and 24, the Office Action states:

> Regarding **Claims 2 and 24** Kerr et al. discloses everything as applied above (see claims 1 and 3).
>
> prior to said storing a first flow identifier, parsing said first packet to retrieve said identifier of the source entity and said identifier of the destination entity(see col. 3, lines 56-67, the routing device examines a header for the packet, to retrieve identifiers).

Claim 2 depends from claim 1 and claim 24 depends from claim 3, which are nonobvious over Kerr in view of Willkie, as discussed above, and so claims 2 and 24 are also nonobvious.

D. Claim 4

Regarding claim 4, the Office Action states:

> Regarding **Claim 4** Kerr et al. discloses everything as applied above (*see claim 3*).
>
> transferring said second packet to said host computer(see col. 3, lines 55-56, the router receive packet, by definition the router receives packet than forwards the packet to destination);

> wherein said host computer is configured to collectively process a data portion of said first packet and a data portion of said second packet in accordance with said protocol (see col. 2-3, lines 50-2, the router, processes in accordance to a transmission protocol type of the first packet, see col. 3, lines 57-67, the header is examined, the destination device (host computer) will process the packet likewise).

Claim 4 depends from claim 3, which recites in part "a protocol above TCP," so that the recitation in claim 4 of "said protocol" refers to "a protocol above TCP." Applicants respectively assert that neither the "transmission protocol" mentioned in "col. 2-3, lines 50-2" nor "the header is examined" mentioned in "col. 3, lines 57-67" disclose processing in accordance with a protocol above TCP.

For at least this additional reason, the Final Rejection has not presented a *prima facie* case of obviousness for claim 4.

E. Claims 5 and 18

Regarding claims 5 and 18, the Office Action states:

> Regarding **Claims 5 and 18** Kerr et al. discloses everything as applied above (see claims 3 and 16).
>
> wherein said identifying comprises:
>
> receiving, by said network interface a flow key generated by concatenating an identifier of the source entity and an identifier of the destination entity(see col. 6, lines 32-41, the flow keys , with information about message flows to include the source and the destination flow identifiers);
>
> wherein said first flow identifier comprises said flow key(see col. 6, lines 32-41, the flow cache includes the flow keys about the messages flows).

Claim 5 depends from claim 3, which is nonobvious over Kerr in view of Willkie, as discussed above, and so claim 5 is also nonobvious. Claim 16 was not actually rejected above, but as discussed below, claim 16 is nonobvious over Kerr in view of U.S. Patent No. 5,819,111 to Davies et al. ("Davies"). Claim 18 depends from claim 16 and so is also nonobvious.

Moreover, applicants respectfully disagree that Kerr teaches "receiving, by said network interface a flow key..." Col. 6, lines 32-41 does disclose "flow keys 310," but

does not teach that the flow keys are received by the router that the Final Rejection asserts is a network interface.

For at least these additional reasons, the Final Rejection has not presented a *prima facie* case of obviousness for claims 5 and 18.

F. <u>Claims 6 and 17</u>

Regarding claims 6 and 17, the Office Action states:

> Regarding **Claims 6 and 17** Kerr et al. discloses everything as applied above (see claims 3 and 16).
>
> wherein said identifying comprises:
>
> receiving, by said network interface an index of said first communication flow in a flow database; wherein said first flow identifier comprises said index(see1 col. 6, lines 31-49, the flow cache had a buckets of entries, of a database flow, which comprises a four-byte pointer(reads on index)).

Claim 6 depends from claim 3, which is nonobvious over Kerr in view of Willkie, as discussed above, and so claim 6 is also nonobvious. Claim 16 was not actually rejected above, but as discussed below, claim 16 has been amended and is nonobvious over Kerr in view of Davies. Claim 17 depends from claim 16 and so is also nonobvious.

Moreover, applicants respectfully disagree that Kerr teaches "receiving, by said network interface an index of said first communication flow ..." Col. 6, lines 31-49 does disclose "buckets 301," but does not teach that the buckets are received by the router that the Final Rejection asserts is a network interface.

For at least these additional reasons, the Final Rejection has not presented a *prima facie* case of obviousness for claims 6 and 17.

G. <u>Claim 7</u>

Regarding claim 7, the Office Action states:

> Regarding **Claim 7** Kerr et al. discloses everything as applied above (see claim 3).
>
> wherein said determining comprises comparing said first flow identifier with a second flow identifier associated with a second packet received at said communication device (see col. 4, lines 1-7, the routing device performs lookup in a flow cache comparing the flow identifiers with second packet to determine message flows).

Claim 7 depends from claim 3, which is nonobvious over Kerr in view of Willkie, as discussed above, and so claim 7 is also nonobvious.

H. Claim 8

Regarding claim 8, the Office Action states:

> Regarding **Claim 8** Kerr et al. discloses everything as applied above (see claim 7).
>
> wherein said determining further comprises:
>
> storing said first flow identifier in a flow memory(see col. 6, lines 29-50, the flow cache stores the flow identifiers in a flow memory) ; and
>
> storing said second flow identifier in said flow memory(see col. 6, lines 29-50, the second flow identifier is stored); and
>
> comparing said stored first flow identifier and said stored second flow identifier(see col. 4, lines 1-7, the message flow is identified by comparing flow identifiers).

Claim 8 depends from claim 7, which is nonobvious over Kerr in view of Willkie, as discussed above, and so claim 8 is also nonobvious.

I. Claim 9

Regarding claim 9, the Office Action states:

> Regarding **Claim 9** Kerr et al. discloses everything as applied above (see claim 8).
>
> wherein said flow memory is an associative memory in said communication device (see figure 3, section 300 flow caches).

Claim 9 depends from claim 8, which is nonobvious over Kerr in view of Willkie, as discussed above, and so claim 9 is also nonobvious.

J. Claim 10

Regarding claim 10, the Office Action states:

> Regarding **Claim 10** Kerr et al. discloses everything as applied above (see claim 3).
>
> storing said first packet in a packet memory (see col. 7, lines 59-61, collecting information about message flow patterns, to include, see col. 8, lines 4-16, collecting (storing) actual data, packets transmitted as part of the flow itself) see col. 2, lines 40-45, the router stores the packet in its memory).

Claim 10 depends from claim 3, which is nonobvious over Kerr in view of Willkie, as discussed above, and so claim 10 is also nonobvious.

K. Claim 11

Regarding claim 11, the Office Action states:

> Regarding **Claim 11** Kerr et al. discloses everything as applied above (see claim 10).
>
> wherein said determining comprises comparing said first flow identifier configured to identify said first communication flow with a second flow identifier configured to identify a second communication flow comprising a packet stored in said packet memory (see col. 4, lines 1-7, the message flow is identified by comparing flow identifiers, if new flow is determined or old message flow).

Claim 11 depends from claim 10, which is nonobvious over Kerr in view of Willkie, as discussed above, and so claim 11 is also nonobvious.

L. Claim 19

Regarding claim 19, the Office Action states:

> Regarding **Claim 19** Kerr et al. discloses everything as applied above (see claim 16).
>
> wherein said packet memory comprises said flow memory (see col. 3, lines 40-48, the routing device (packet memory, maintains the flow cache)).

Claim 11 depends from claim 10, which is nonobvious over Kerr in view of Willkie, as discussed above, and so claim 11 is also nonobvious.

Moreover, applicants respectfully disagree that Kerr teaches "wherein said packet memory comprises said flow memory." Col. 3, lines 40-48 does disclose a "flow cache," but does not teach that the packet memory includes the flow cache.

For at least this additional reason, the Final Rejection has not presented a *prima facie* case of obviousness for claim 19.

M. Claims 20 and 27

Regarding claims 20 and 27, the Office Action states:

> Regarding **Claims 20 and 27** Kerr et al. discloses everything as applied above (see claims 16 and 3).
>
> storing a first indicator in a host memory if said communication flow comprises said second packet; and storing a second indicator in said host memory if said first packet is the only packet in said packet memory that is part of said communication flow (see col. 4, lines 1-7, the message flow is identified by comparing flow identifiers, if new flow is determined or old message flow).

Claim 16 was not actually rejected above, but as discussed below, claim 16 is nonobvious over Kerr in view of Davies. Claim 20 depends from claim 16 and so is also nonobvious. Claim 27 depends from claim 3, which is nonobvious over Kerr in view of Willkie, as discussed above, and so claim 27 is also nonobvious.

Applicants also respectfully disagree that "Kerr et al. discloses … storing a second indicator in the destination entity if said first packet is the only packet stored in the packet memory that is part of said first communication flow(see col. 4, lines 1-7, the flow is identified as new if the first packet only packet part of the communication flow)." Although "col. 4, lines 1-7" of Kerr disclose determining whether "the identified message flow 160 is a 'new' message flow 160," Kerr does not teach that this determination is stored in the destination entity. Moreover, Kerr does not disclose that a second indicator is stored besides the first indicator, regardless of whether the packet is "new."

For at least these additional reasons, the Final Rejection has not presented a *prima facie* case of obviousness for claims 20 and 27.

N. Claims 21, 25 and 26

Regarding claims 21, 25 and 26, the Office Action states:

> Regarding **Claims 21, 25 and 26** Kerr et al. discloses a communication interface, comprising:
>
> a header parser configured to parse a header of a first packet received at the communication interface, wherein the first packet was issued from a source entity for a destination entity(see col. 3, lines 57-67, the router device examines the headers of the received packets, see figure 1, communication interface attached via a communication link);
>
> a flow database configured to facilitate management of a communication flow comprising the first packet, the flow database comprising(see1 col. 6, lines 31-49, the flow cache had a buckets of entries, of a database flow, which comprises a four-byte pointer(reads on index)):

a flow key configured to identify the communication flow using identifiers of the source entity and the destination entity(see col. 6, lines 32-36, the flow cache, comprise a memory which associated flow keys which include the source and the destination);

an activity indicator configured to indicate a recency with which a packet in the communication flow has been received(see col. 5, lines 51-54, at step 241, the routing device examines, in the flow cache and compares the current time with the last time a packet was routed using a particular entry); and

a validity indicator for indicating whether the communication flow is valid(see col. 3, lines 39-49, the routing device maintains the flow cache and remove message flow that are no longer valid. Indicating message flow is no longer valid);

a code generator configured to generate an operation code for the first packet, to facilitate forwarding of the first packet toward the destination entity(see col. 6, lines 29-41, the flow cache has flow keys that reads on operation code, which includes information about a particular message flow); and

a packet batching module configured to determine whether a second packet received at the communication interface is part of the communication flow(see col. 3-4, lines 57-7, the router device identifies a message flow by comparing received packets).

said flow identifier including source and destination Transmission Control Protocol (TCP) port numbers (see col. 2 line 61- col. 3 line 2, a message flow 160 is defined by a network-layer address for a particular source device 120, a particular port number at the source device 120, a network-layer address for a particular destination device 130, a particular port number at the destination device 130, and a particular transmission protocol type. For example, the transmission protocol type may identify a known transmission protocol, such as TCP);

decoding, by said network interface, a header of the first packet to determine a length of data to be stored in said destination entity, wherein said header conforms to a protocol above TCP(see col. 3, lines 25-34, a message flow may be identified responsive to other factors. These other factors may include one or more of the following: information in packet headers the packet length);

Applicants respectfully note that the Final Rejection fails to even allege that Kerr and Willkie disclose various recitations of claims 21, 25 and 26.

For example, claim 21 recites in part "a network interface for a host computer, the network interface configured to receive a first packet from a network and transfer at least a data portion of said first packet to a host computer memory." The Final Rejection probably does not even allege that this recitation is disclosed by the cited art because the

router of Kerr, which the Final Rejection elsewhere terms a "network interface," does not transfer "a data portion of said first packet to a host computer memory."

Other recitations of claim 21 that do not receive even a cursory rejection include:

> a packet memory configured to store said first packet;
>
> a flow memory for storing a first flow number associated with said first packet, wherein said first flow number is configured to identify a communication flow comprising said first packet;
>
> a packet batcher configured to determine whether the communication flow includes a second packet stored in said packet memory after said first packet; and a notifier configured to:
>
> store a first code in a host indicator if said packet memory includes the second packet; and
>
> store a second code in said host indicator if said packet memory does not include the second packet; and
>
> a processor for processing a header portion of said first packet and determining a length of data to be stored in the destination entity, wherein said header portion conforms to a protocol above Transmission Control Protocol (TCP).

In short, the Final Rejection has not presented a *prima facie* case of obviousness for claim 21.

Similarly, the Final Rejection fails to even allege that Kerr and Willkie disclose recitations of claim 25. For instance, claim 25 recites in part "a header parser configured to parse a header of a first packet received at the communication interface, the header including a Transmission Control Protocol (TCP) header and a header above TCP that is decoded to determine a length of data being received." The Final Rejection probably does not even allege that this recitation is disclosed by the cited art because Kerr and Willkie do not disclose "a header above TCP that is decoded to determine a length of data being received." As discussed above regarding claim 1, applicants respectfully disagree that "Kerr et al. discloses ...decoding, by said network interface, a header of the first packet to determine a length of data to be stored in said destination entity, wherein said header conforms to a protocol above TCP(see col. 3, lines 25-34, a message flow may be identified responsive to other factors. These other factors may include one or more of the following: information in packet headers the packet length)."

Thus, the Final Rejection has not presented a *prima facie* case of obviousness for claim 25.

Similarly, the Final Rejection fails to even allege that Kerr and Willkie disclose recitations of claim 26. For instance, claim 26 recites in part "assigning an operation code to the first packet, said operation code indicating whether a portion of data in the first packet is reassembleable with another portion of data in another packet in the communication flow." The Final Rejection probably does not even allege that this recitation is disclosed by the cited art because Kerr and Willkie do not disclose such an operation code or its assignment. In addition, the Final Rejection does not allege that Kerr and Willkie disclose "decoding, by the communication interface, a second header portion of the first packet to determine a length of data being received, said second header portion conforming to a protocol above TCP."

In short, the Final Rejection has not presented a *prima facie* case of obviousness for claim 26.

III. <u>35 USC §103 - Kerr in view of Davies</u>

The Office Action rejects claims 14-16 and 23 under 35 USC §103(a) as allegedly being unpatentable over Kerr in view of Davies.

A. <u>Claim 16</u>

Regarding claim 16, the Office Action states:

> Regarding **Claim 16** Kerr et al. discloses a method of transferring a packet from a network interface to a host computer, comprising:
>
> receiving a first packet at a network interface(see col. 3, lines 55-56, receives a packet, see figure 1, section routing device);
>
> storing said first packet in a packet memory see col. 3, lines 55-67, the router stores packets)
>
> receiving a first flow identifier configured to identify a communication flow comprising said first packet(see col. 3, lines 57-67, flow identifying, identifying a flow for the packet, see col. 6, lines 29-41, the flow cache, stores the flow identifiers, including the source and the destination);
>
> storing said first flow identifier in a flow memory(see col. 6, lines 29-41, the flow cache, stores the flow identifiers, including the source and the destination);
>
> searching said flow memory for a second packet in said communication flow received at the network interface after said first packet(see col. 3, lines 49-67, the router determines the message flow of the received packets);

transferring header of said first packet to said host computer(see col. 8, lines 35-59, the router builds an information packet which is then sent to a destination device (host computer), in accordance to a communication protocol, for processing, see col. 2-3, lines 50-2, the router, processes in accordance to a transmission protocol type of the first packet , see col. 3, lines 57-60, routing device examines the header); and

including source and destination Transmission Control Protocol (TCP) port numbers (see col. 2line 61- col. 3line 2, a message flow 160 is defined by a network-layer address for a particular source device 120, a particular port number at the source device 120, a network-layer address for a particular destination device 130, a particular port number at the destination device 130, and a particular transmission protocol type. For example, the transmission protocol type may identify a known transmission protocol, such as TCP);

decoding, by said network interface, a header of the first packet to determine a length of data to be stored in said destination entity, wherein said header conforms to a protocol above TCP(see col. 3, lines 25-34, a message flow may be identified responsive to other factors. These other factors may include one or more of the following: information in packet headers the packet length);

Kerr et al. fails to specifically point out configuring an indicator in a host memory to indicate whether processing of said first packet by said host computer should be delayed to await transfer of said second packet to said host memory as claimed.

Davies et al. teaches configuring an indicator in a host memory to indicate whether processing of said first packet by said host computer should be delayed to await transfer of said second packet to said host memory (See col 4, lines 8-13, The disabling step can include checking if a run length encoded data transfer is pending from the host, and if so, delaying disabling of the data transfers from the host to the peripheral until a data byte associated with the run length encoded data is received by the interface controller, otherwise do not delay).

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Kerr et al. invention with Davies et al. invention because Davies et al. invention provides provide methods and apparatus for reducing the complexity of programming on the peripheral side of an IEEE interface (see Davies et al. col. 3, lines 10-16)

Applicants respectfully disagree with this rejection. As discussed above regarding claim 1, there is no teaching in Kerr of "decoding, by said network interface, a header of the first packet to determine a length of data to be stored in said destination entity, wherein said header conforms to a protocol above TCP."

Moreover, applicants respectfully note that the Final Rejection again fails to even allege that the cited art discloses certain claim recitations. For example, the Final Rejection fails to even allege that Davies teaches "configuring an indicator in a host memory to indicate whether processing of *a remainder of* said first packet by said host computer should be delayed to await transfer of said second packet to said host memory." For at least this reason, the Final Rejection has not presented a *prima facie* case of obviousness for claim 16.

Further, applicants respectfully disagree that "Davies et al. teaches configuring an indicator in a host memory to indicate whether processing of said first packet by said host computer should be delayed to await transfer of said second packet to said host memory. (See col 4, lines 8-13, The disabling step can include checking if a run length encoded data transfer is pending from the host, and if so, delaying disabling of the data transfers from the host to the peripheral until a data byte associated with the run length encoded data is received by the interface controller, otherwise do not delay)." Note that claim 16 recites in part "delayed to await transfer of said second packet to said host memory," whereas the delay of Davies quoted by the Final Rejection is instead "from the host to the peripheral." For at least this additional reason, the Final Rejection has not presented a *prima facie* case of obviousness for claim 16.

In addition, applicants respectfully disagree that "it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Kerr et al. invention with Davies et al. invention because Davies et al. invention because Davies et al. invention provides provide methods and apparatus for reducing the complexity of programming on the peripheral side of an IEEE interface (see Davies et al. col. 3, lines 10-16)" The peripheral side of the "IEEE 1284 interface" taught by Davies is a printer that is directly attached to a computer by a parallel bus. Col. 1, lines 15-67. This is a far cry from the network router taught by Kerr.

Moreover, the "delay" taught by Davies and cited by the Final Rejection involves particular interactions between specific modes of the IEEE 1284 standard, the "host transfer recovery (HTR) cycle" and the "enhanced compatibility port (ECP) mode" that includes a "run length encoded (RLE) data compression." Col. 1, line 22 – col. 3, line 13. There is no indication that the interaction between these parallel bus modes for the

direct attached printer of Davies would be at all useful or even possible for the network router of Kerr. Indeed, the only realistic result of combining Kerr with Davies as proposed by the Final Rejection, if such combination would even be possible without destroying Kerr, is an unnecessary increase in the complexity of Kerr, quite the opposite of the incentive proposed by the Final Rejection.

For at least these additional reasons, the Final Rejection has not presented a *prima facie* case of obviousness for claim 16.

Because of the multiple reasons why the Final Rejection has not presented a *prima facie* case of obviousness for claim 16, applicants respectfully assert that claim 16 and all the claims that depend from claim 16 are nonobvious, and respectfully request that the rejection of those claims be withdrawn.

B. <u>Claim 23</u>

> Regarding Claim **23** Kerr et al. discloses a processor readable storage medium containing a data structure configured to store information concerning a packet to be transferred from a network interface to a host computer, the data structure including one or more entries, each entry comprising:
>
> a flow number configured to identify a communication flow comprising a first packet received at the network interface from a source entity for a destination entity associated with the host computer(see col. 6, lines 29-41, the flow cache has flow keys that reads on flow number); and
>
> a validity indicator configured to provide(see col. 3, lines 39-49, the routing device maintains the flow cache and remove message flow that are no longer valid. Indicating message flow is no longer valid);
>
> wherein said data structure is searched for a second entry containing said flow number when said first packet is transferred to the host computer to determine if said communication flow also comprises a second packet received at the network interface after said first packet (see col. 3-4, lines 57-7, the routing device identifies a message flow, the packets are compared to determine if is part of a message flow).
>
> including source and destination Transmission Control Protocol (TCP) port numbers (see col. 2line 61- col. 3line 2, a message flow 160 is defined by a network-layer address for a particular source device 120, a particular port number at the source device 120, a network-layer address for a particular destination device 130, a particular port number at the destination device 130, and a particular transmission protocol type. For example, the transmission protocol type may identify a known transmission protocol, such as TCP);

> Kerr et al. fails to specifically point out a first indication if said first packet is ready for transfer to the host computer; and a second indication if said first packet is a control packet as claimed;
>
> Davies et al teaches a first indication if said first packet is ready for transfer to the host computer (See col 4, lines 1-13, The disabling step can include checking if a run length encoded data transfer is pending from the host, and if so, delaying disabling of the data transfers from the host to the peripheral until a data byte associated with the run length encoded data is received by the interface controller, otherwise do not delay, the disabling step reads on an indication, and control status flag indicates that the data is ready, error free and pending)
>
> a second indication if said first packet is a control packet(see col. 3, lines 28-41, method can include after execution of the step of transferring a data block, either setting the interface controller to disable acknowledgment of receipt of data if a flow control status flag indicates pending flow stop, receiving of control packets)
>
> Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Kerr et al. invention with Davies et al. invention because Davies et al. invention provides provide methods and apparatus for reducing the complexity of programming on the peripheral side of an IEEE interface (see Davies et al. col. 3, lines 10-16).

Applicants respectfully disagree with this rejection. The Final Rejection of claim 23 fails to even assert that the cited art discloses "a header conforming to a protocol above TCP, the header decoded by the network interface." As discussed above regarding claim 1, however, there is no such teaching in Kerr.

Further, applicants respectfully disagree that "Davies et al. teaches ... a second indication if said first packet is a control packet(see col. 3, lines 28-41, method can include after execution of the step of transferring a data block, either setting the interface controller to disable acknowledgment of receipt of data if a flow control status flag indicates pending flow stop, receiving of control packets)." Instead, "col. 3, lines 28-41" of Davies state:

> Embodiments of the invention include the following features. The method can include after execution of the step of transferring a data block, either setting the interface controller to disable acknowledgment of receipt of data if a flow control status flag indicates pending flow stop; or if not, setting the flow control status flag to indicate pending flow stop if the large capacity buffer has insufficient space to hold one data block from the plurality of small capacity buffers.

> The disabling of acknowledgment of receipt of data can be delayed if a run length encoded data transfer is pending until an RLE data byte associated with the end of the pending run length encoded data transfer is received by the interface controller.

Although this passage mentions "a flow control status flag," it does not teach or suggest a "… a second indication if said first packet is a control packet." For at least this additional reason, the Final Rejection has not presented a *prima facie* case of obviousness for claim 23.

In addition, applicants respectfully disagree that "it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Kerr et al. invention with Davies et al. invention because Davies et al. invention because Davies et al. invention provides provide methods and apparatus for reducing the complexity of programming on the peripheral side of an IEEE interface (see Davies et al. col. 3, lines 10-16)" The peripheral side of the "IEEE 1284 interface" taught by Davies is a printer that is directly attached to a computer by a parallel bus. Col. 1, lines 15-67. This is a far cry from the network router taught by Kerr.

Moreover, the "delay" taught by Davies and cited by the Final Rejection involves particular interactions between specific modes of the IEEE 1284 standard, the "host transfer recovery (HTR) cycle" and the "enhanced compatibility port (ECP) mode" that includes a "run length encoded (RLE) data compression." Col. 1, line 22 – col. 3, line 13. There is no indication that the interaction between these parallel bus modes for the direct attached printer of Davies would be at all useful or even possible for the network router of Kerr. Indeed, the only realistic result of combining Kerr with Davies as proposed by the Final Rejection, if such combination would even be possible without destroying Kerr, is an unnecessary increase in the complexity of Kerr, quite the opposite of the incentive proposed by the Final Rejection.

For at least these additional reasons, the Final Rejection has not presented a *prima facie* case of obviousness for claim 23, and applicants respectfully request that the rejection of claim 23 be withdrawn.

IV. Conclusion

For the many reasons mentioned above, applicants respectfully assert that the Final Rejection has not presented a *prima facie* case of obviousness for a single claim. Applicants respectfully submit that the pending claims are in condition for allowance, and a Notice of Allowance is solicited.

Respectfully submitted,

/Mark Lauer/

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